

T News Letter **TDARS**

G3ZME
G6ZME

TELFORD AND DISTRICT AMATEUR RADIO SOCIETY

www.TDARS.org.uk

FOUNDED 1969

www.TelfordHamfest.co.uk

Issue 277

Feb./March 2017

www.TDARS.org.uk

Programme

www.telfordhamfest.co.uk

- Feb. 15** *Raspberry Pi & Arduino for beginners. John M0JZH explains*
- Feb. 22** *Bowls Evening with the LWVH Bowls Club. 7pm start. Refreshments*
- March 1** *First-in-the-Month Committee meeting and GX3ZME on the air*
- March 8** *Main Construction Competition. Have you finished that winter project?*
- March 15** *'Something Old . . . ' Bring along any interesting, older elec. Item*
March 18 (Sat.) *RTTY Contest from LWVH. Also Oscilloscope workshop & Repairs*
- March 22** *"Receivers and what's wrong with them;" Guest speaker -*
Chris Bartram GW4DGU
- March 29** **ANNUAL GENERAL MEETING**— 8pm—Agenda page 3. Subs due !
- April 5** *First-in-the-Month Committee meeting and GX3ZME on the air*
- April 12** *PCBs—Using Eagle PCB Software—Shabaz Usaf—Webinar presentation*
- April 19** *Following sudden death of Dave G4HUP, this evening's programme TBA*
- April 21-23** *International Marconi Day event (Fri-Sun) GB8MD at Tywyn (M0JZH et al)*
- April 26** *'Coaxial Cables and Connectors' by Paul G8AQA*
- May 3** *First-in-the-Month Committee meeting and GX3ZME on the air*
- May 10** *Visit to Criggion Radio Station site. Host Robert Pearce*
- May 17** *Ten Minute Topics. Members' thoughts and presentations*
- May 21 (Sun.)** *Eaton Manor Vintage Car Rally— for Macmillan Shrops. G7ACD*

For Amateur Radio Exam Training—enquiries to Mike G3JKX (01952 299677)
For Morse Training and Morse Proficiency Tests Martyn G3UKV or Eric M0KZB.
For Equipment Loans & Returns contact Don M0TBQ.
Radio Amateur Exams- Latest: www.tdars.org.uk/html/training.html

Qtc: News & Information



TDARS MEETINGS EVERY WEDNESDAY AT LITTLE WENLOCK VILLAGE HALL UNLESS INDICATED OTHERWISE ON THE FRONT PAGE PROGRAMME. ROOM BOOKED FROM 7PM - 10PM.

If Junior Hamsters group meeting, please do not enter before 7:45pm MEETINGS USUALLY COMMENCE AT 8PM

Please note: A current membership card must be shown to borrow TDARS equipment. Please return borrowed equipment promptly .

The TDARS AGM takes place on WEDNESDAY 29 MARCH at 8pm.

AGENDA :

- 1) Apologies**
- 2) Minutes of AGM held 30 March 2016, and Matters Arising**
- 3) Chairman's Report**
- 4) Treasurer's Report & presentation of accounts. 2017/18 subscription rates**
- 5) Appointment of Auditors 2017/18**
- 6) Election of Society Officers and committee**
- 7) Presentation of Awards and Trophies**

THE HAMSTERS—have continued to meet during term times every other week (usually), from 7:00–7:45pm. As they've continued to attend, we can assume they have enjoyed themselves, especially with practical tasks and experiments. A few members have queried why they have been asked NOT to enter the meeting room before the Hamsters' sessions finish (at about 7:45pm). The reason for this is that the youngsters are very easily distracted and having others coming and going is totally off-putting. As the future of our hobby is with the next generation, Eric ('KZB) has asked for your patience in this matter, but of course he welcomes offers of assistance in working with the Hamsters if you are available from 7pm. The Hamsters have started looking at the Foundation syllabus, helped by Mike 'JKX and others.



At the Forum meeting, some asked what **portable events TDARS** would be undertaking this year. We already know about Marconi Day (April 22), JOTA (Oct.21-22), and possibly Railways On The Air (Sept.23-24). Paul M0PLA reminded us that he is collecting SOTA (Summits on the Air) points for an award by going out on as many Saturdays as possible and invites others to join him to climb summits near and not-so-near (eg Cadair Berwyn, Feb 11). John G7ACD circulated leaflets about the Eaton Manor Vintage Car Macmillan day (Sun. May 21) event. Then Martyn 'UKV and Paul 'PNN are looking at /P from Wales or Suffolk, possibly in June.

Other On-The-Air possibilities are Mills on the Air ((May13-14), Lighthouses OTA (Aug.19-20), Churches & Chapels OTA (Sept.9), and International Air Ambulance Week (Sept.11-17). But don't leave it all to others; **Anyone** can organise an event, book a 'special call' (if required) and get things arranged. The club will almost certainly support you with publicity, members help, camping kit, generator, antennas, feeders and so on. That's partly how TDARS won the National Club Trophy (pic. left), and makes TDARS a great radio club to belong to ! Just let the committee have details of what you are proposing



It was sad to hear from our Chairman, Eric, of the death of **Dave Taylor G4VVD**. "Dave used to join Glyn (aka Mike) G4AUZ, Albert G7LGH and myself every Sunday night on the air. Dave was a good engineer and spent much of his time repairing motor lawnmowers, which was part of his business. Dave lived at Clive." (e-mail 9 Feb. 2017)

The **“Under a Fiver” construction competition** (Feb.8th) was well supported, with 12 entries from 8 members. There were nearly 30 present at the event, and scoring was very close at the finish. The variety of entries and explanations by those presenting items was remarkable. Items included several antennas (G0UFE, M0PNN, M0PLA, G7LMF, G3UKV), LED work-light (M0PLA), a time domain reflectometer and high precision network-based clock(M0HMO), ATUs for 4 and 6 metres (G0ASP, G8VZT) and a hand SWR/R.Loss calculator (G3UKV). However, the overall winner was Dave G8VZT with his two ATUs for 4 and 6 metres, with his usual high standard of mechanical & electrical construction.

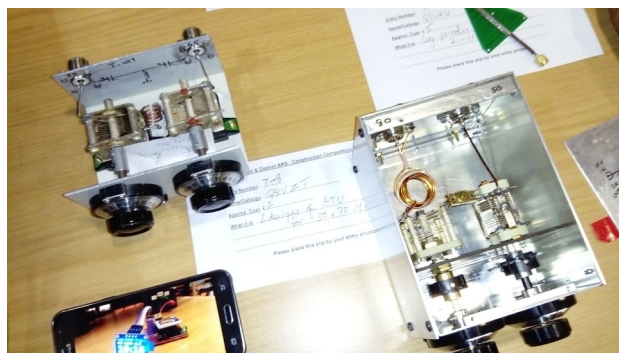


L to R :
2mMoxon M0PLA
Worklight M0PLA
Scope etc —part of
M0HMO projects



And the winner is...

**ATUs for 4
and
6 metres by
Dave
G8VZT**



~+

We have all had the problem of what values of Inductance and Capacitance are required to make a tuned circuit for the frequency we need.

The usual resonant frequency formula $f = 1/2\pi\sqrt{LC}$ is not easy to use. This is because the formula needs L to be in Henries and C in Farads. This involves using ten to the minus something. Not nice on a calculator. Amateurs commonly use RF coils marked in μH and capacitors in pF.

Fortunately someone worked out a formula using μH & pF directly. Simply divide 25330.3 by C in pF multiplied by L in μH . The resultant figure gives frequency squared, so you then have to take the square root of the answer, which gives the resonant frequency, which is in MHz !

This method means that you can work out the frequency range of a variable capacitor and a fixed value inductance very quickly. Joy!

73 Mike G3JKX

The Vertical Part One by Paul M0PNN

As the solar flux drops and we head into the doldrums the lower HF bands are where most of the action is going to be. Big, yes big or biggest is best on the lower HF bands. Space or lack of it is my problem. We all dream of large open spaces filled with the antennas of our dreams (well I do anyway). A quarter wave at the interesting end of 80m is 20.5m high, so ideally a garden of at least 45m x 45m or 149 feet by 149 ft to fit antenna and radials in. A quarter wave at 160m is 40.5 metres high, ideally a garden of at least 85m x 85m or 280 feet by 280 ft to fit antenna and radials in and that's just a quarter wave.

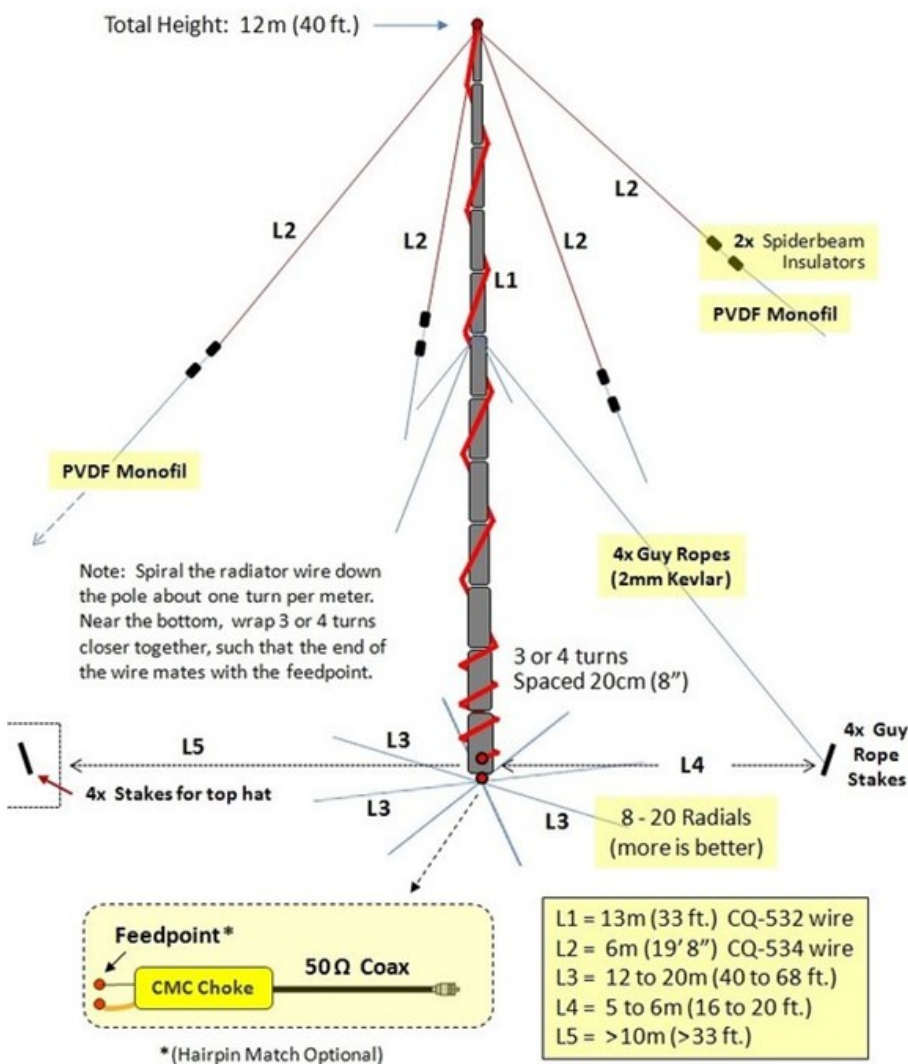
One of the most amazing things at HF is the ionosphere is very good at propagating a signal. Even using a very poor antenna like a 'wonder wand' will get you some contacts with the better equipped operators. The much maligned G5RV bent at all angles five feet off the ground will work, but just because something works doesn't mean you should use it; a bicycle pump will pump up a tractor tyre, but it may take some time.

I was very lucky that Mike G3JKX had given me a loaded vertical for 80m that had been cut for the lower end of the 80m band. Considering its size it works very well. I have worked the southern states of the USA during the ARRL contest on CW. I had never done that well on 80m before—but could I do better?

Amateur radio operators, the military etc, have been using these frequencies for years. There's many proven designs to choose from and I am more than happy to stand on the shoulders of giants "...now please pass me that ladder". The internet is a great resource with many antenna designs for 80m but what design should I choose? I tend to avoid the designs where the constructor is more interested in constructing it and offers no feedback on how it performs compared to other antennas. For a good source of antenna designs, look no further than the major dxers or dxpeditions. When you're spending hundreds or thousands of pounds just to get there you need your antennas to work. Not all antennas used on dxpeditions are going to work - most take place near salt water; not much of that in Shropshire. After much deliberation I decided on a design using a spider beam 12m fiberglass Spiderpole. The trouble is the Fiberglass Spiderpole is expensive and I'm cheap.

Top-Loaded 80m Vertical on a 12m HD Spiderpole

A very efficient 80m Vertical for the Back Yard



In work I have a very good supply of one and half inch pull wound fibreglass poles from broken high jump poles. I just cut the broken ends off and seal them with epoxy.

I found a couple of broken aluminium mop handles in a skip and they fit perfectly inside the fibreglass poles so I can join them. The trouble is the fibreglass poles are quite heavy and only self supporting with one join to about seven metres.

No problem—I just added 3 feet of aluminium mop handle used some electrical tape to take up the slack and slid a 6m lightweight fishing/SOTA pole over the mop handle the pole is now 13m long.

After constructing the top hat and adding a section of two inch aluminium pole to the base it now fits into a polythene tunnel socket in the back garden -- guess where I found that.

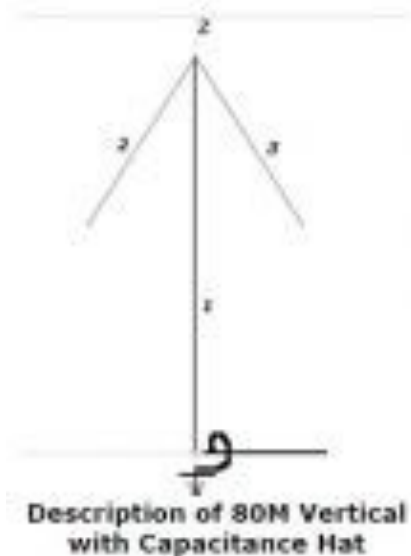
See url below for more info and some very good antennas:-

<http://www.dj0ip.de/vertical-antennas/80m-on-12m-pole/>

To put up a Spiderpole is easy; you, just push the sections up one at a time adding top hat guys etc as you go. My pole has to be walked up, but no matter how I tried, by the time I had walked up the pole it looked like two nests of rats had been in competition for the World Cup of rats nests. On one occasion a top hat wire picked up my 5/8 vertical silver rod from the shed roof and as I turned round to see why it had become so heavy it gracefully arced though the air and struck me on the nose as I turned to look: “Gosh how unfortunate”, or words to that effect, I cried.

The Vertical Part Two

A rethink was required. When researching the vertical I looked at many designs. Number two on the list was this one on IW5EDI web site.



Wire Number	Length	Included Angle
1	11.89 m	(39') N/A
2	5.84 m	(19'-2") 29°
3	5.84 m	(19'-2") 29°

<http://www.iw5edi.com/ham-radio/?80m-vertical-antenna-with-capacitance-hat,132>

I removed the top hat and replaced it with two much thicker wires and used para-cord for top hat guys and main guys. I taped the lot at the base to stop it tangling when walking the antenna up, added a 1:1 current balun and attached ground system of 300 feet of wire buried in the garden and large four foot three inch copper pipes. When I attached the analyzer the swr was off the scale.

“Gosh how unfortunate” or words to that effect I cried again. A quick check with a multi-meter. . . . dead short, one of Murphy’s whiskers from the small outer cable that makes up the coax cable had somehow worked its way to the middle. A quick re-solder of the plug and the SWR is 1.5 at the interesting end of the 80m band. How well did it work ? Well during the CQWW CW contest I worked forty three countries and made 147 QSOs—best ever. Including 3V,5B,SV9. M4M (ie M0PNN SCC –Ed) is third in the UK raw scores.

CQWW CW Contest							
Band	10	15	20	40	80	160	All
QSOs	2	43	99	82	137	25	388
Ctrys	2	18	45	33	43	14	155
Zones	2	10	9	6	8	2	37
V18.34a	C 74		Z 13		Score	107520	

Thanks for Newsletter input from Graham G7LMF, John M0JZH,
Mike G3JKX, Paul M0PLA, Paul M0PNN, Mike G6DFD
Next Newsletter edition April 2017.

My First Experiences of WAB by Graham G7LMF

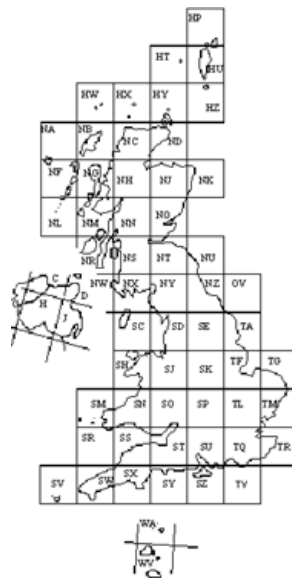


Firstly a brief introduction to W.A.B. which stands for Worked All Britain which is, for those who don't know it, "The Worked All Britain Awards Group" which was devised by the late John Morris G3ABG in 1969. This was to promote an interest in Amateur Radio in Britain and to sponsor a series of awards based on the geography of Great Britain and Northern Ireland.

Now why am I writing this, well, not that I make New Year Resolutions but if I did then this would be probably one of them and that is to join W.A.B. and start collecting W.A.B. Squares.

W.A.B. Squares are based on: for Great Britain - the Ordnance Survey of Great Britain "National Grid Reference" (NGR); for Northern Ireland - the Ordnance Survey of Ireland "Irish Grid"; and for the Channel Islands - the "Universal Transverse Mercator Grid" (UTM).

These form the basis of the main W.A.B. Awards. W.A.B. Squares are the 10km x 10km "Small Square" which alone does not constitute the W.A.B. Square. The W.A.B. Square is the 10km small square and the Country, e.g. "SP87 England".



To collect W.A.B. Squares I had to purchase a "Book" and my "Book" (number 21764) arrived in the post on the 14th January 2017 so at 11:42z on Friday 27th January I took the plunge and tuned to the 40m W.A.B. Net frequency of 7.160 Mhz and had my very first experience of operating in a W.A.B. Net.

W.A.B. Nets, like other Nets, have a Net Controller and on this occasion it was Ken, G0FEX from Leicester, so as I patiently waited to be called into the Net I was happily listening to the QSO's going on and monitoring the Facebook Messenger conversation going on. I exchanged a few comments on Messenger and received a particularly

appropriate comment from one amateur "Welcome to the Madhouse".

At an opportune moment I took the plunge and announced my call sign and was answered by Ken, G0FEX who explained what was going and that he would pass me onto each of the people in the Net in turn who would exchange the usual pleasantries as well as the all-important exchange of signal report and W.A.B. Square.

So having started with my very first W.A.B. QSO with Ken, G0FEX at a mere 55 miles and a W.A.B. Square SK50 I then rapidly went through the list of stations, eagerly hoping to bag a new Book Number (mine). So rapid fire around the country and contacts made in Peterborough (TL19), Cornwall (SX45), Kings Lynn (TF74), Market Rasen (TF18), N.Ireland (C60); next a relative local, G7BGA - Geoff Jones in Ruyton XI Towns (SJ32).

Then onto Folkstone (TR23), Poole (SY99), Rainford St. Hellens (SD40), and then one of the Overseas Book Holders, SM6CNX - Dan Franz in Sweden (699 miles), followed by Leatherhead (TQ15), Stanford Le Hope (TQ67), Milton Keynes (SP83) and then for my final contact at 12:22z before the signals faded, another visit to N.Ireland (GI0AZB/M in square C60).

After this exhilarating 40 minute experience I posted on the W.A.B. Facebook Group my appreciation to all of the 15 stations I worked on my very first WAB net.

The W.A.B people I met during this first 40 minutes were a very friendly bunch and were really 'gentle' with me with Ken (G0FEX) 'holding my hand' figuratively speaking.

x

Then came the logging activity. I entered my QSO's onto my book number tracker and was very surprised to see I had a mixed total of 202 books collected in just under an hours work with 15 contacts. Apparently this is normal.

So, I can not only aim at getting an Award for collecting W.A.B. Squares, there are another 13 'Perpetual' Awards and a further 10 'Timed' Awards I can aim for.

The nice thing about it is I can either collect them from my shack at home or I can go out and activate squares myself.

If you fancy a go, then here's a special word for those just starting. As you read through the W.A.B. web site <http://wab.intermip.net/default.php>) you may feel a bit daunted by all that W.A.B. has to offer. This is because it offers a comprehensive & diverse Awards Scheme that the individual can tailor to suit their own requirements. Please don't be put off by this. Take a bit of time to read the requirements for the Awards. They have introduced a two-tier system to help you get started. The Suggested Introductory Awards for Newcomers are ideal to get you started: the W.A.B. Squares Award, as this is the "bread and butter" award of the W.A.B. scheme, along with the Decade Award, which runs each calendar year, and the Book Numbers Award. Once you become comfortable with these, you can start collecting for any of the Additional Available Awards for Advanced Collectors section, although there is nothing to stop you collecting for all or any of the Awards from the day you start.

As I get used to the way W.A.B. works, I will soon find that I will evolve a method of recording information that suits me, and that can help me encompass more of the scheme. For this reason I have been advised to log full W.A.B. details of my contacts, even if at the outset I'm not claiming those particular Awards. That way I should find it so much easier when I come to trawl back through my log for another certificate. Happy W.A.B.--ing. Graham G7LMF

[illegible]

International Marconi Day 22-4-17

It will soon be April and Marconi Day will be upon us. Planning is very much in full swing, and with antennas we are planning to have something better again than we have had in previous years. This year we are looking to have dipoles for both 80m and 160m, so if you have never operated on Top Band well now is your chance!! We have the special event callsign **GB8MD**, and we are looking forward to using it.

Each year we go to Tywyn on the West Coast of Wales (if you are coming please make sure that you are coming to the right one, there are more than one Tywyn). The post code for your SatNav is LL36 9HN, the full address is Marconi Bungalows, Tywyn, Gwynedd. For accommodation the camping is free, but if you prefer something a little more 'comfortable' then the nearby bed and breakfast has been used by club members in the past and has had some good reports. Please see <http://www.leahurstbedandbreakfast.co.uk> for information, or call 01654 710572.

International Marconi Day starts at 00:00 UTC on Saturday 22nd April, and runs for the full 24 hours. There are normally many stations that are looking to work Marconi stations and it can be quite a lively event, with the prospect of some interesting DX to be had. In the past at the height of the solar cycle we have put on several stations for the event, however this year I think that there will probably be two stations, each sharing the frequencies, operating bands will be from 7Mhz – 28Mhz on the Comet H422 that we have, with the inclusion of 18Mhz separately. Then below that will be the 80/160m dipoles, it should be a very interesting event. As it is not a contest, the pressure is not there, and it is very light hearted with plenty of banter. If you are coming, I would be grateful if you could let me know your intentions times etc, not for anything in particular, but just so that we are aware of numbers. All help for setting up and taking down of the stations is very much appreciated.

We hope to see you there. **John 'JZH**



**Photos from
IMD 2016.**

